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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/146,734	09/03/1998	RALF BOHNKE	450117-4648	9762

20999 7590 12/26/2002

FROMMER LAWRENCE & HAUG  
745 FIFTH AVENUE- 10TH FL.  
NEW YORK, NY 10151

EXAMINER

SAM, PHIRIN

ART UNIT

PAPER NUMBER

2661

DATE MAILED: 12/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/146,734

Applicant(s)

BOHNKE, RALF

Examiner

Phirin Sam

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-13, 15, 16 and 18 is/are rejected.
- 7) ☒ Claim(s) 10 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s): \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Awater et al. (U.S. Patent 6,175,551) in view of Van Nee (U.S. Patent 5,841,813).

Awater et al discloses the invention (**claims 1-8 and 18**) as claimed including transmission method for transmitting OFDM-signals, comprising the steps of:

- (a) modulating the signals onto a plurality of subcarriers using a OFDM-modulation method (see Fig. 2), transforming the modulated signals into the time domain (see Fig. 2, element 28, col. 3, lines 66-67, col. 4, lines 1-5), and transmitting the signals (see Fig. 2, element 38, col. 4, lines 18-21) characterized in that in the modulating step every M-subscriber is modulated with a signal (see Fig. 2, col. 4, lines 2-5), wherein M is an integer.

Awater et al does not disclose  $M \geq 2$ . However, Van Nee discloses  $M \geq 2$  (see Fig. 1, col. 5, lines 50-56). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine  $M \geq 2$  teaching by Van Nee with Awater et al. The motivation for doing so would have been to provide to minimize intersymbol interference. Therefore, it would have been obvious to combine Van Nee and Awater et al to obtain the invention as specified in the claims 1-8 and 18.

3. Claims 9, 11-13, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Nee (U.S. Patent 5,841,813) in view of Kumar (U.S. Patent 5,966,401).

**Regarding amended claims 9, 13 & claims 11-12, 15-16,** Van Nee discloses receiving method for receiving OFDM-signals comprising M identical or respectively mirrored wave forms within on OFDM-tiemburst, wherein M is an integer and  $M \geq 2$ , comprising the steps of:

- (a) receiving the OFDM signals (see Fig. 2, col. 5, lines 58-60).
- (b) correlating the wave forms to obtain time synchronization (see Fig. 2, col. 6, lines 29-38).
- (c) transforming the signals into the frequency domain (see Fig. 2, col. 5, lines 65-67, col. 6, line 1).
- (d) demodulating the signals (see Fig. 2, col. 5, lines 65-66).

Van Nee does not disclose M-1 correlators. However, Kumar discloses M-1 correlators (see Figs. 6 and 8, elements 23 and 25, col. 13, lines 10-13, col. 19, lines 34-47). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine M-1 correlators teaching by Kumar with Van Nee. The motivation for doing so would have been to provide to correlate time delayed versions of the I and Q information. Therefore, it would have been obvious to combine Kumar and Van Nee to obtain the invention as specified in the claims 9, 11-3, and 15-16.

4. Claims 10 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

5. Applicant's arguments with respect to claims 9, 11-13, and 15-16 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to the examiner, Phirin Sam whose telephone number is (703) 308 – 9294. The examiner can normally be reached on Monday – Friday for 8:30AM – 5:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Olms can be reached on (703) 305 – 4703. The fax number for this group is (703) 872 – 9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 305 – 4700.



Phirin Sam  
Patent Examiner  
December 20, 2002